

### **IN THE CLAIMS**

Please amend the claims as follows:

1. (Currently Amended) A method, comprising:  
interacting with a debugging interface for receiving instructions to debug during a debugging session, wherein the debugging interface provides tools, commands, and operations to a user for interfacing with an existing emulator of the user and an existing simulator of the user;  
maintaining coherence between a simulation mode and an emulation mode by  
maintaining mappings between physical and logical resources during the debugging session; and  
dynamically switching between the emulation mode associated with the existing emulator of the user and the simulation mode associated with the existing simulator of the user during the debugging session by stopping a current mode of operation during the session and accessing the mappings to switch to a new mode of operation during the session, wherein the debugging session interactively debugs the instructions and can be switched between the emulation mode and the simulation mode dynamically on user instruction or automated instruction.
2. (Currently Amended) The method of claim 1 further comprising debugging a number of the instructions by [[a]] the existing simulator while in the simulation mode.
3. (Currently Amended) The method of claim 1 further comprising debugging a number of the instructions by [[an]] the existing emulator while in the emulation mode.
4. (Original) The method of claim 1 wherein interacting further includes displaying, by the debugging interface, a current state of a resource associated with the instructions during the debugging session.
5. (Original) The method of claim 1 wherein interacting further includes receiving, by the debugging interface, manual commands to debug the instructions during the debugging session.

6. (Original) The method of claim 1 wherein interacting further includes receiving, by the debugging interface, script commands to debug the instructions during the debugging session.

7. (Original) The method of claim 6 wherein interacting further includes receiving by the debugging interface, a switch command to process the switching between the emulation mode and the simulation mode.

8. (Currently Amended) A method, comprising:

establishing a debugging session to debug instructions, wherein the debugging session is interactive;

maintaining coherent states between logical and physical resources that are used to debug the instructions during the debugging session by maintaining mappings between physical and logical resources used during the debug session; and

dynamically passing control of the debugging session between [[a]] an existing simulator of a user that manages the logical resources and an existing emulator of the user that manages the physical resources during the debugging session and while the instructions are still being executed and dynamically passing control by stopping the simulator and using the mappings to transition to the physical resources and initiating the emulator during the debugging session.

9. (Original) The method of claim 8 further comprising interfacing with a debugging interface that supplies a switch mode command, which drives the passing of control.

10. (Original) The method of claim 9 further comprising transmitting the coherent states to the debugging interface.

11. (Original) The method of claim 8 further comprising interfacing with a script that supplies a switch mode command, which drives the passing of control.

12. (Original) The method of claim 8 further comprising:  
acquiring control from the simulator when control is with the simulator in response to receiving a switch mode command; and  
passing control to the emulator.
13. (Original) The method of claim 8 further comprising:  
acquiring control from the emulator when control is with the emulator in response to receiving a switch mode command; and  
passing control to the simulator.
14. (Original) The method of claim 8 further comprising, receiving the instructions from a debugging interface.
15. (Currently Amended) A system, comprising:  
a debugging interface to receive instructions that are to be debugged during a debugging session that presents an existing emulator and its interface along with an existing simulator and its interface to a user via the debugging interface;  
a controlling interface to maintain coherence between a simulation mode and an emulation mode associated with the debugging session, wherein coherence is achieved via mappings maintained from logical resources associated with the simulation mode of the existing simulator of the user and physical resources associated with the emulation mode of the existing simulator of the user; and  
a debugging execution interface to dynamically debug a number of the instructions while the debugging session is in the simulation mode or the emulation mode;  
wherein the debugging interface communicates with the controlling interface and the controlling interface communicates with the debugging execution interface, and wherein the debugging interface permits dynamic switching between the simulation and emulation modes while the instructions are being debugged by stopping a current mode of operation during the session and using the mappings to dynamically switch to a new mode of operation during the session.

16. (Currently Amended) The system of claim 15 wherein the debugging execution interface further includes:

[[a]] the existing simulator to process a number of the instructions while in the simulation mode; and

[[an]] the existing emulator to process a number of the instructions while in the emulation mode.

17. (Original) The system of claim 15 wherein the debugging interface supplies the instructions to the controlling interface.

18. (Original) The system of claim 15 wherein the debugging interface supplies a switch mode command to the controlling interface and in response to the switch mode command the controlling interface sets at least one of the simulation mode and emulation mode and switches control of the debugging session by communicating with the debugging execution interface.

19. (Currently Amended) A machine accessible medium having associated data, which when accessed, carries out in a machine the method of:

establishing a debugging session to debug instructions, wherein the debugging session is interactive;

maintaining coherent states between logical and physical resources that are used to debug the instructions during the debugging session by maintaining mappings between the logical and the physical resources; and

dynamically changing control between simulation modes associated with the logical resources and processed as an existing simulator and its interface by a user and emulation modes associated with the physical resources that is processes as an existing emulator and its interface by the user during the debugging session and while the instructions are being debugged by stopping processing associated with the simulation modes and accessing the mappings to initialize and start the emulations modes.

20. (Original) The medium of claim 19 wherein the debugging session is established and driven by a debugging interface.

21. (Currently Amended) The medium of claim 19 wherein control is changed between [[a]] the existing simulator for the simulation modes and [[an]] the existing emulator for the emulation modes.

22. (Currently Amended) An apparatus in a computer accessible medium comprising:  
[[a]] an existing simulator of a user;  
an existing emulator of the user; and  
a debugging session manager, wherein the debugging session manager dynamically manages a debugging session to debug instructions by maintaining mappings of logical resources to physical resources, and wherein during the debugging session a number of the instructions are selectively processed by the emulator and a number of the instructions are selectively processed by the simulator, and wherein switching from the simulator to the emulator is achieved while the instructions are being debugged by stopping a current mode of operation and accessing the mappings to switch to a new mode of operation during the debugging session.

23. (Original) The apparatus of claim 22 wherein the debugging session manager interacts with a debugging interface to receive the debug instructions and establish the debugging session.

24. (Original) The apparatus of claim 23 wherein the debugging session manager selectively determines which of the instructions that the simulator and emulator process based on commands received from the debugging interface.

25. (Original) The apparatus of claim 23, wherein the debug session manager passes control between the simulator and the emulator as many times as is requested during the debug session.